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~~John DeLonge, Ph.D.~~

BIOCHEMICAL AND NEUROENDOCRINE ASPECTS OF EXPOSURE TO MICROWAVES by S.M. Michaelson, D.V.M., W.M. Houk, M.D., N.A. Lebeda, M.S., S. Lu, M.S., and R. Magin, M.S., Univ. of Rochester, Rochester, N.Y.

Reports of biochemical and hormonal changes in animals and man exposed to microwaves or radiofrequency (MW/RF) energy suggest effects on the neuroendocrine system (NES). The literature on hypothalamic-hypophysial-adrenal (HHA) and -thyroid (HHT) axes effects is reviewed. Changes attributed to MW/RF exposure are consistent with the pattern of NES involvement in physiologic adjustment to increased body temperature (T) or alterations in thermal gradients which could effect any individual or combination of components in the hierarchical NES, although some investigators suggest a direct effect on the central nervous system (CNS). To assess the pathophysiologic implications of NES perturbation, rats and dogs are exposed to 2450 MHz (CW) microwaves, revealing changes in serum hormone levels related to T changes. In unanesthetized rats exposed whole body for 2.5 hours, there is a decrease in serum growth hormone (GH) after 36 mW/cm² (3.0°C increase in colonic T) which is not evident after 9 or 18 mW/cm². In the anesthetized dog, cranially exposed to 20, 40 or 80 mW/cm² for 1 hour, there does not seem to be any significant change in GH or thyroxine (T₄) levels.

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WHEN ABSTRACT IS COMPLETED DO NOT FOLD THIS SHEET. Mail first class to the address below using cardboard backing to avoid damage. All material must reach this office NO LATER THAN January 18, 1974.

Send abstract to: The Conference Director
The New York Academy of Sciences
2 East 63rd Street
New York, New York 10021

Mailing address of first author

..Sol. M. Michaelson, D.V.M.....
University of Rochester
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Department of Radiation Biology and Biophysics
.....
Rochester, New York 14642

January 14, 1974

Dr. D.E. Beischer
Chief, Biomedical Division
Code L33
Naval Aerospace Medical Research
Laboratory
Naval Aerospace Medical Center
Pensacola, Florida 32512

Dear Dr. Beischer:

I have just received the program for the New York Academy of Sciences Conference on the Biological Effects of Non-Ionizing Radiation. For some reason, Dr. Houk's name was left off the list of authors for our paper "Biochemical and Neuroendocrine Aspects of Exposure to Microwaves," although I had advised the EHR Office that Dr. Houk is a co-author. The paper to be published in the Annals of the New York Academy of Sciences will list Dr. Houk as a co-author: BIOCHEMICAL AND NEUROENDOCRINE ASPECTS OF EXPOSURE TO MICROWAVES by S.M. Michaelson, D.V.M., W.M. Houk, M.D., N.A. Lebeda, M.S., S. Lu, M.S., and R. Magin, M.S.

Enclosed is a copy of the abstract which has been submitted.

Since the paper to be presented will include a considerable amount of Dr. Houk's data, I believe it would be most appropriate for him to attend this conference to participate in the discussion.

In addition, the program is quite extensive and touches on some very fundamental questions of microwave/radiofrequency bioeffects. As Dr. Houk's Academic Advisor, I would strongly urge that he attend this conference as an educational experience.

Sincerely,

Sol M. Michaelson
Professor

SMM:pab
Enclosure
cc: W.M. Houk, M.D.